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Application No. S2002/0731

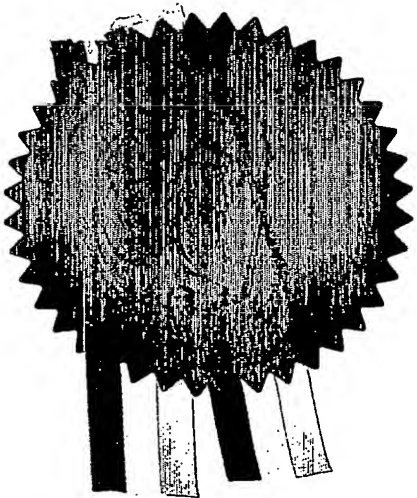
Date of Filing 10 September 2002

Applicant SEAMUS GREALLY, an Irish Citizen of 27 Caragh Green, Naas, County Kildare, Ireland.

Dated this 9 day of September 2003.

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S020731

APPLICATION NO.

FORM NO. 1

**REQUEST FOR THE GRANT OF A PATENT
PATENTS ACT, 1992**

The Applicant named herein hereby request

- ☐ the grant of a patent under Part II of the Act
- ☒ the grant of a short-term patent under Part III of the Act

on the basis of the information furnished hereunder.

1. APPLICANT

Name **Seamus Grealy**

Address **27 Caragh Green, Naas, County Kildare, Ireland**

Description/Nationality **An Irish Citizen**

2. TITLE OF INVENTION

"A Measuring Device"

**3. DECLARATION OF PRIORITY ON BASIS OF PREVIOUSLY FILED
APPLICATION FOR SAME INVENTION (SECTIONS 25 & 26)**

<u>Previous filing date</u>	<u>Country in or for which filed</u>	<u>Filing No.</u>
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4. IDENTIFICATION OF INVENTOR(S)

Name(s) of person(s) believed by Applicant(s) to be the inventor(s)

1. GREALLY, Seamus

Address

1. 27 Caragh Green, Naas, County Kildare, Ireland

5. STATEMENT OF RIGHT TO BE GRANTED A PATENT (SECTION 17(2)(B))

By virtue of the Applicant being the Inventor

Contd./...

6. **ITEMS ACCOMPANYING THIS REQUEST - TICK AS APPROPRIATE**

- (i) ☒ prescribed filing fee (€60.00)
- (ii) ☐ specification containing a description and claims
☒ specification containing a description only
☒ Drawings referred to in description or claims
- (iii) ☐ An abstract
- (iv) ☐ Copy of previous application(s) whose priority is claimed
- (v) ☐ Translation of previous application whose priority is claimed
- (vi) ☒ Authorisation of Agent (this may be given at 8 below if this Request is signed by the Applicant(s))

7. **DIVISIONAL APPLICATION**

The following information is applicable to the present application which is made under Section

24 -

Earlier Application No:
Filing Date:

8. **AGENT**

The following is authorised to act as agent in all proceedings connected with the obtaining of a Patent to which this request relates and in relation to any patent granted -

Name
F. R. KELLY & CO.

Address
at their address as recorded for the time being in
the Register of Patent Agents

9. **ADDRESS FOR SERVICE (IF DIFFERENT FROM THAT AT 8)**

SEAMUS GREALLY
F. R. KELLY & CO.

By: 
EXECUTIVE

Date: 10 September, 2002



A Measuring Device

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The present invention relates to a measuring device, in particular a tape measuring device having an improved
5 coupling or tab for engaging a point/lip/edge of an object to be measured.

Tape measuring devices known in the prior art generally comprise a tape housing and a retractable tape which
10 projects, in use, from an aperture in the tape housing. The device also generally includes a tab-like coupling projecting perpendicularly from the free end of the tape. The coupling hooks onto an edge of an object to be measured, to prevent the tape slipping away from the
15 object. However, the coupling does not always suit the shape of the object, and therefore cannot hook onto it effectively. Furthermore, it is often necessary to twist the tape to read the measuring indicia printed on the tape. For these reasons, the measurements recorded by
20 conventional tape measuring devices are often not wholly accurate.

It is also known to have an end coupling which comprises rigid projecting parts mounted in perpendicular
25 orientation to the tape, in directions both above and below the tape. However, such a rigid construction results in the coupling being quite large and bulky, and, therefore, it is difficult to measure small objects. The rigid and bulky construction also reduces
30 the accuracy of measurements taken in, for example, a corner of a room.

It is an object of the present invention to mitigate one or more of the problems associated with the prior art.

According to the present invention there is provided a
5 measuring device comprising a tape; and a coupling
hingedly mounted to a free end of the tape about an axis
which lies substantially parallel to the width of the
tape.

10 Preferably, the axis about which the coupling is mounted
lies substantially flush with the free end of the tape.

Preferably, the coupling comprises a first section and a
second section, wherein the first section and second
15 section are substantially perpendicular to one another.

Preferably, the tape comprises a substantially elongate
planar body including an upper surface and a lower
surface, and, in use, the coupling is moveable from a
20 first state wherein the first section extends in a
direction substantially perpendicular to the upper
surface of the tape and the second section lies in the
plane of the tape in register with the lower surface of
the tape; to a second state wherein the first section
25 lies in the plane of the tape in register with the upper
surface of the tape and the second section extends in a
direction substantially perpendicular to the lower
surface of the tape.

30 Further preferably, the coupling is moveable between
said first and second states, the first section
extending in a direction at a first acute angle to the
upper surface, the second section extending in a

direction at a second acute angle to the lower surface, such that the sum of the first and second angles is approximately 90 degrees.

- 5 Advantageously, the coupling is mounted to the free end of the tape by a pin and collar arrangement.

10 According to an alternative embodiment of the invention, there is provided a measuring device comprising a tape and a coupling hingedly attachable to an otherwise free end of the tape, the coupling comprising a first section and a second section, wherein the first section and the second section are moveable relative to one another.

- 15 As used herein, the term "tape" means any type of elongate, preferably substantially planar, body which can be used to measure the dimensions of an object and comprises any suitable material, including fabric, plastic or light metal, this list not intending to limit
20 the term thereto.

As used herein, the term "width" means the minor dimension of the tape, generally transverse to the length of the tape, but not intending to limit the term
25 thereto.

An embodiment of the present invention will now be described with reference to the accompanying drawings in which:-

30

Figure 1 is a perspective view of a measuring device according to a preferred embodiment of the invention,

comprising a tape and a coupling hingedly mounted to the otherwise free end of the tape;

5 Figure 2 is an exploded perspective view of a portion of the tape and the coupling of Figure 1;

Figure 3a is a sectioned side elevation of a portion of the tape and the coupling, in use, in a first state;

10 Figure 3b is a sectioned side elevation of the tape and the coupling, in use, in a second state, showing the coupling of Figure 3a having been rotated through 90 degrees in an anti-clockwise direction;

15 Figure 3c is a sectioned side elevation of the tape and the coupling, in use, in an alternative state, intermediate the first and second states, of Figures 3a and 3b respectively;

20 Figure 4 is a plan view of the device, in use, with a panel having a circumferential raised lip;

Figure 5a is a side elevation of the device in the first state, in use, with a box; and

25 Figure 5b is a side elevation of the device in the second state, in use, with the box of Figure 5a.

Referring now to the accompanying drawings, there is
30 illustrated a measuring device 10 according to a preferred embodiment of the invention. The device 10 comprises a retractable measuring tape 14 which protrudes, in use, from a tape housing 12, and a

coupling 16 hingedly mounted to an otherwise free end of the tape 14. The coupling 16 comprises first and second sections forming respective arms 18, 20, which arms 18, 20 are mounted substantially perpendicular to one another, as shown in Figure 2. The coupling 16 is pivotable about an axis which lies substantially parallel to the width of the tape 14, between first and second states, in both of which states one of the first and second arms 18, 20, extends in a direction substantially perpendicular to the tape 14, the other arm being in register with the tape 14, generally lying flush thereagainst. In this manner, the coupling 16 enables either the first or the second arm 18, 20 to engage, and preferably hook onto, an object (not shown) to be measured. The coupling 16 is also pivotable such that a range of positions intermediate the first and second states is obtainable, which will be described in more detail hereinafter.

Referring now to Figure 1, the tape housing 12 is of the type known in the art used to house a roll of measuring tape 14. Within the housing 12, the retractable tape 14 is biased towards its rolled up state by conventional biasing means (not shown). When not in use, the coupling 16 located at the end of the tape 14 abuts against the housing 12. In use, a user pulls on the coupling 16 to release the tape 14 from the housing 12 through an aperture (not shown) provided therein. As shown in Figure 3a for example, the tape 14 comprises a substantially elongate planar body including an upper surface 22 and a lower surface 24.

Referring now to Figure 2 in particular, the first and second arms 18, 20 are preferably substantially planar, and rectangular in shape, the first arm 18 being mounted substantially perpendicular to the second arm 20. The first and second arms 18, 20 are hingedly mounted to the tape 14 by means of a conventional pin and collar arrangement. The pin and collar arrangement comprises a collar having first and second cylinders 26, 36, each cylinder 26, 36 including an aperture 28, 38 to receive a pin 30.

The second cylinder 36 generally forms part of a plate 32, which plate 32 has a substantially rigid, planar body 34. The plate 32 is generally secured to the upper surface 22 by means of rivets 42. Thus, once the plate 32 is secured, the coupling 16 may be conveniently hingedly mounted to the tape 14 by means of the pin and collar arrangement. A substantially rigid, planar reinforcing portion 40 is also provided which reinforcing portion 40 is attachable to the lower surface 24. It will be appreciated that although the reinforcing portion 40 is advantageous as it provides the tape 14 with increased rigidity, it is not essential to the invention. The reinforcing portion 40 is also secured to the tape 14 using the rivets 42, as shown, for example in Figure 3a. Although not shown in Figure 3a, holes 35 provided in the plate 32 and the tape 14 which receive the rivets 42, are preferably elongate. The coupling 16 may therefore be slidable about the rivets 42 in the longitudinal direction of the tape 14 by a distance approximately equal to the thickness of the first or second arms 18, 20. Such sliding movement of the coupling 16 enables the measuring device 10 to

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take account of the thickness of the respective arms 18, 20 in any measurement, such sliding movement of a coupling (not shown) being known in conventional tape measuring devices.

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Referring now to Figures 3a and 3b, the coupling 16 is pivotable, in use, about an axis defined by the pin 30. Figure 3a shows the coupling 16, in use, in a first state, the first arm 18 extending in a direction
10 substantially perpendicular to the upper surface 22, the second arm 20 lying in the plane of the tape 14, in register with the lower surface 24 as hereinbefore described. The coupling 16 is pivotable about its axis to a second state, as shown in Figure 3b. In its second
15 state, the first arm 18 lies in the plane of the tape 14, in register with the upper surface 22, the second arm 20 extending in a direction substantially perpendicular to the lower surface 24 as hereinbefore described.

20

The coupling 16 is therefore constructed and adapted such that either the first or second arm is used to engage and hook onto an object to be measured. This is illustrated, for example, in Figures 5a and 5b, which
25 show the device 10, in use, with a box 44 comprising an upper end 46 and a lower end 48 connected by two sides 50. Referring to Figure 5a, the tape 14, in use, is pulled out from the housing 12 and placed flush against the upper end 46 of the box 44, in order to measure
30 same. The coupling 16 is placed in the second state, such as to be capable of engaging a corner 51 between the upper end 46 and the side 50 adjacent thereto. In this state, the second arm 20 is used to hook onto the

box 44, and the upper surface 22 of the tape 14 is easily readable to provide an accurate measurement of the upper end 46.

5 The versatility of the device 10 is illustrated in Figure 5b, in which the tape 14 is placed flush against the lower end 48 of the box 44. The coupling 16 is in the first state, i.e. rotated through 90 degrees clockwise with respect to the second state, and is
10 placed engaging a corner 49 between the lower end 48 and the side 50 adjacent thereto. In this manner, the first arm 18 is used to hook onto the box 44. The upper surface 22 of the tape 14 is again easily readable, thus avoiding any twisting of the tape 14 in order provide an
15 accurate measurement of the lower end 48.

Figure 3c shows the coupling 16 in a position intermediate the first and second states, in which the first arm 18 extends in a direction at a first acute
20 angle (X) of 45 degrees to the upper surface 22, the second arm 20 extending in a direction at a second acute angle (Y) of 45 degrees to the lower surface 24. It will be appreciated that the coupling 16 is pivotable about
25 0 - 90 degrees, and the second angle (Y) is also variable from 0 - 90 degrees, such that the sum of the first and second angles (X), (Y) is always approximately 90 degrees. Therefore, if, for example, the first arm 18 projects at a first angle (X) of approximately 20
30 degrees to the upper surface 22, the second arm 20 will project at a second angle (Y) of approximately 70 degrees to the lower surface 24.

Referring now to Figure 4, the device 10 comprising the coupling 16 of Figure 3c described above is shown, in use, with a panel 52 having a circumferential raised lip 54. The coupling 16 is constructed to accurately measure, in particular, the internal diagonal dimensions of the panel 52. In particular, the coupling 16 fits squarely and engages a corner 53 to provide accurate diagonal measurement of the panel 52. Engaging the coupling 16 in the corner 53 in this manner provides the device 10 with improved accuracy and use. It will be appreciated that the device 10 can also be used to measure the external dimensions of the panel 52, using the coupling 16 in the first and second states, as previously described herein.

According to an alternative embodiment (not shown), the coupling 16 is constructed such that the first arm 18 is mounted at an acute angle to the second arm 20. According to a still further embodiment (not shown), the first arm 18 is mounted at an obtuse angle to the second arm 20. In this manner, it will be apparent that a variety of devices 10 may be produced, having a range of angled couplings 16. Furthermore, the devices (not shown) may be further adapted such the first arm 18 is moveable relative to the second arm 20, thus providing a variety of couplings 16 and measuring methods.

It will be appreciated that the present invention is not limited to the embodiments described herein. For example, it will be appreciated that the coupling 16 is not limited to being hingedly mounted to the tape 14 by means of the pin and collar arrangement, and that any other suitable means may be used. The pin and collar

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arrangement previously described herein enables a user (not shown) to move the arms 18, 20 into whatever position enables a particular dimension of an object to be measured. However, the pin and collar arrangement
5 may, for example, be replaced by some form of frictional coupling or bearing, for example a dimple and nipple arrangement (not shown). Such a dimple and nipple arrangement would enable a user to incrementally change the position of the arms by "clicking" the arms 18, 20
10 into pre-determined positions. Such an arrangement would be particularly useful in making small positioning changes to the arms 18, 20, intermediate the first and second states.

15 It will be further appreciated that the plate 32 and reinforcing portion 40 are not limited to being secured to the tape 14 by means of the rivets 42, and that any other suitable means may be used.

20 The present invention is not limited to the embodiments described herein which may be amended or modified without departing from the scope of the present invention.

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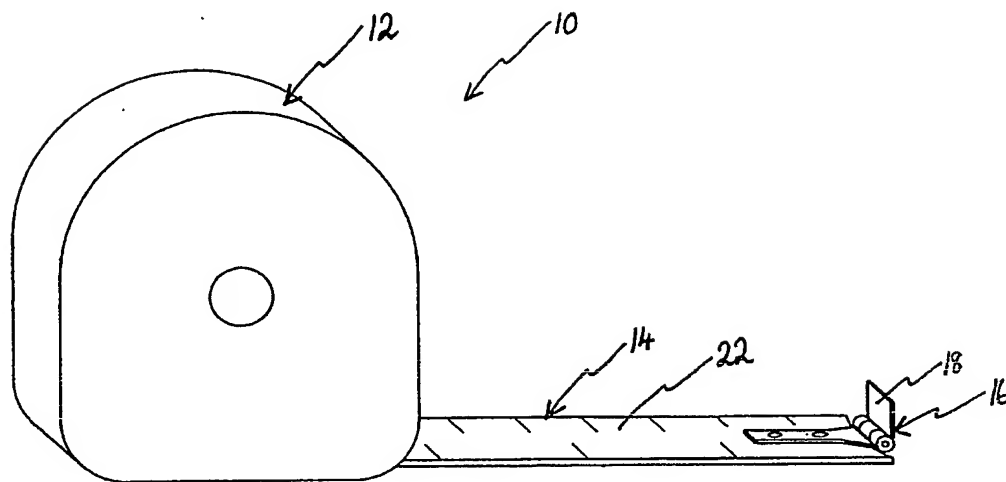


FIGURE 1

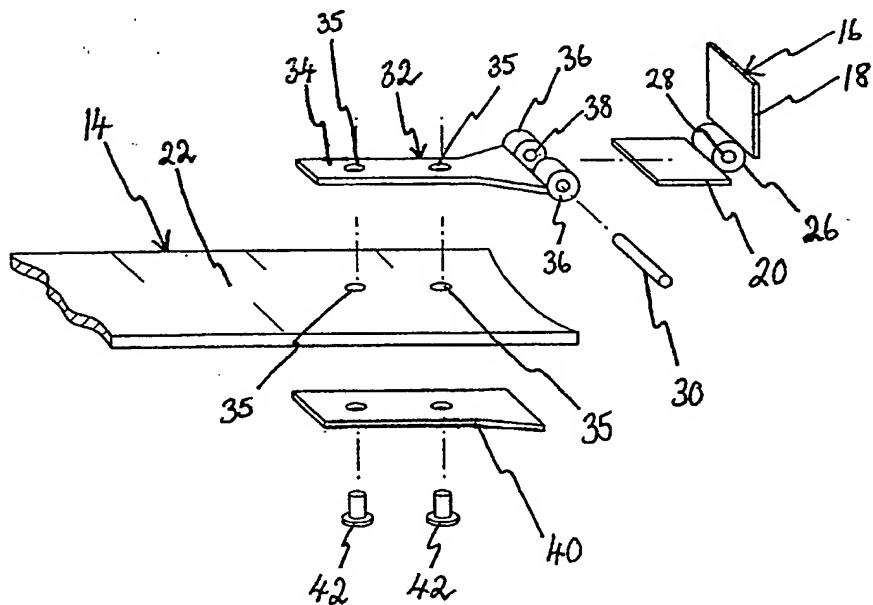


FIGURE 2

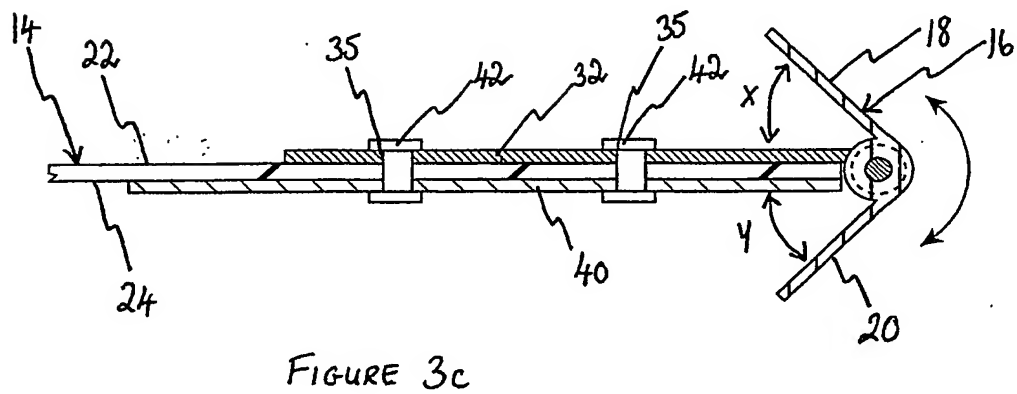
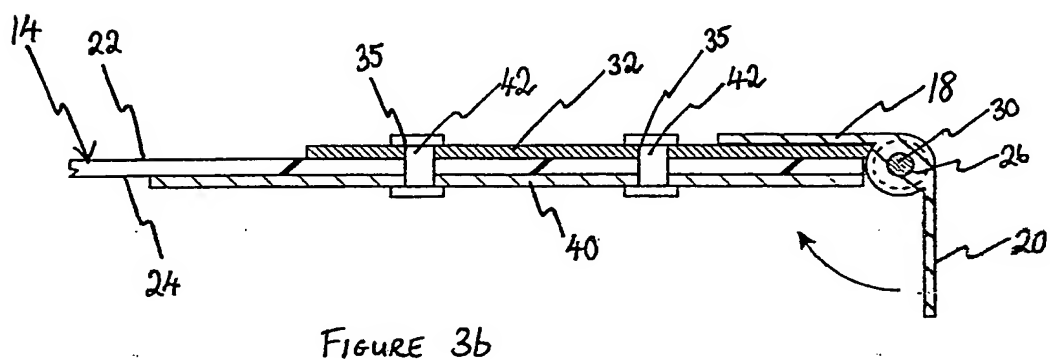
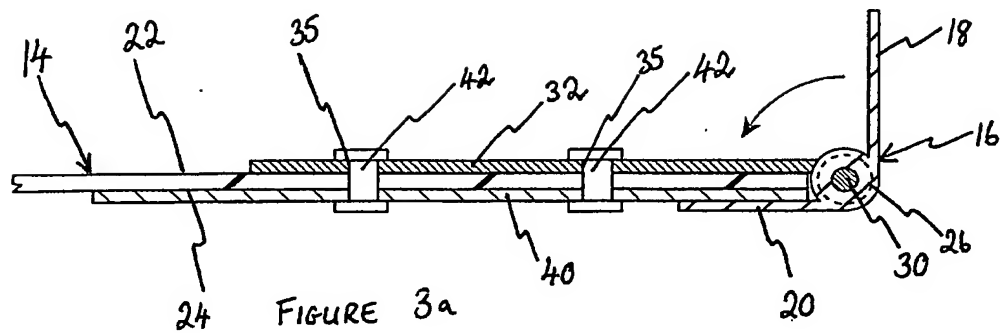
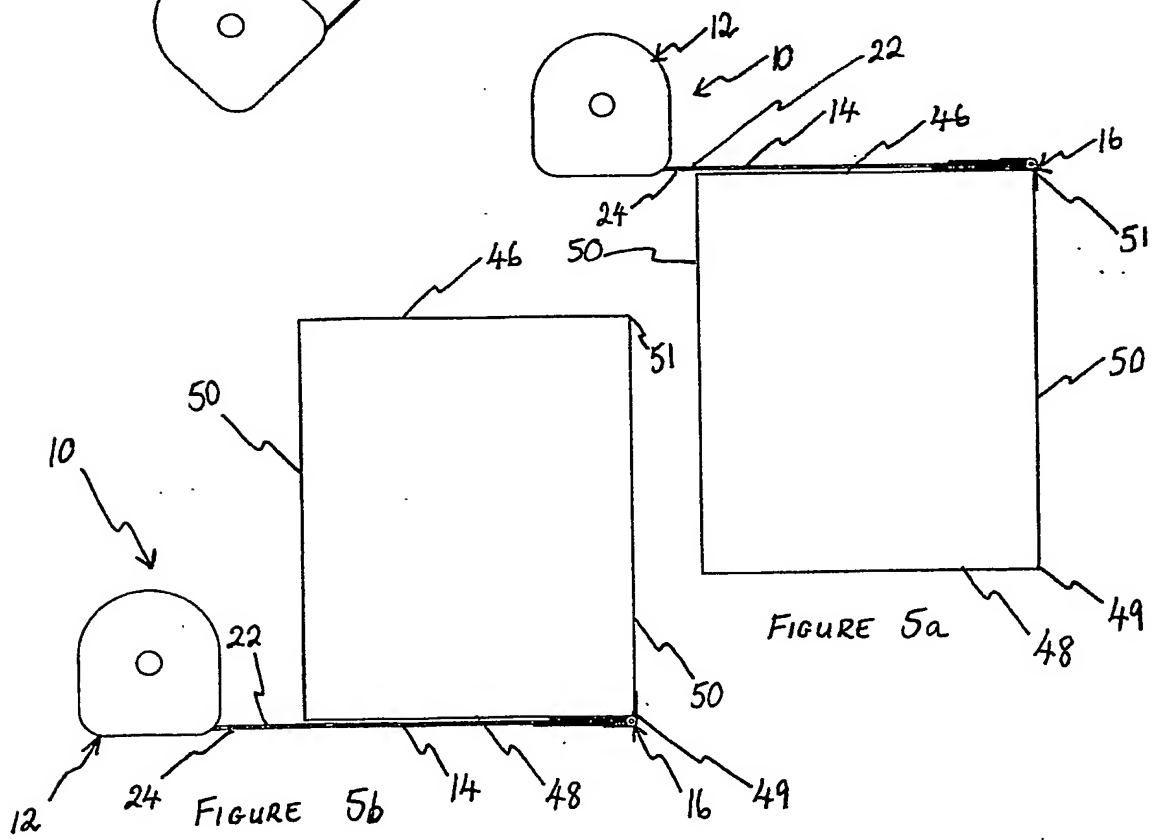
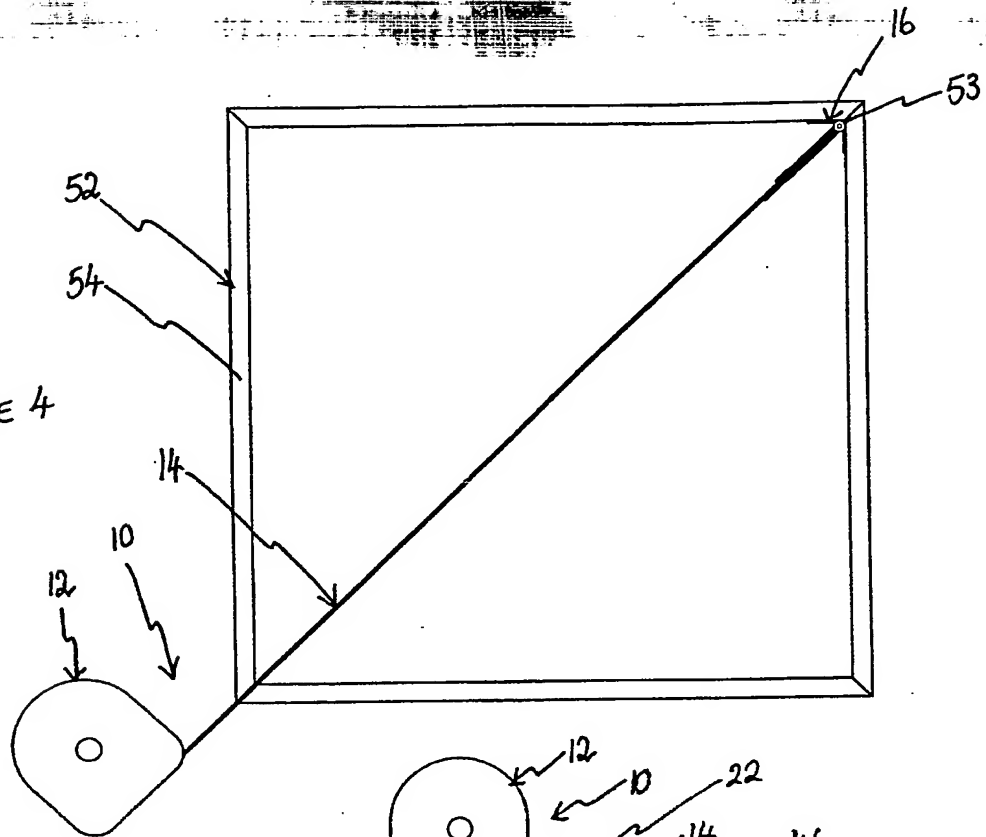


FIGURE 4



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